

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 91641	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">FOR FURTHER ACTION</div> <div>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div>	
International application No. <b>PCT/AU 99/00306</b>	International filing date ( <i>day/month/year</i> ) 23 April 1999	(Earliest) Priority Date ( <i>day/month/year</i> ) 23 April 1998
Applicant <b>COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION</b>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of **5** sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title, ☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**ASSAY FOR METHYLATION IN THE GST-Pi GENE**

5. With regard to the abstract, ☒ the text is approved as submitted by the applicant

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- ☐ as suggested by the applicant. ☒ None of the figures
- ☐ because the applicant failed to suggest a figure
- ☐ because this figure better characterizes the invention

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU 99/00306

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>																						
Int Cl <sup>6</sup> : C12Q 1/68, 1/48; C12N 15/54																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
<b>B. FIELDS SEARCHED</b>																						
Minimum documentation searched (classification system followed by classification symbols) IPC <sup>6</sup> C12Q (see electronic database below)																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched (see electronic database below)																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) (see attached sheet)																						
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>																						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
X,Y	AU 31341/95 A (THE JOHN HOPKINS UNIVERSITY SCHOOL OF MEDICINE) 1 February 1996 See page 6, lines 19-21 in particular.	1-46																				
X,Y	LEE, W.H. et al. (1997) CG Island Methylation Changes Near the GSTPI Gene in Prostatic Carcinoma Cells Detected Using the Polymerase Chain Reaction: A New Prostate Biomarker, CANCER EPIDEMIOLOGY, BIOMARKERS AND PREVENTION Volume 6, 443-50. See whole document	1-46																				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex																						
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent but published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
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"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family																			
"P"	document published prior to the international filing date but later than the priority date claimed																					
Date of the actual completion of the international search 7 May 1999		Date of mailing of the international search report 25 MAY 1999																				
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929		Authorized officer  DAVID HENNESSY Telephone No.: (02) 6283 2255																				

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	BROOKS, J.D. et al. (1998) CG Island Methylation Changes Near the GSTPI Gene in Prostatic Intraepithelial Neoplasia, CANCER EPIDEMIOLOGY, BIOMARKERS AND PREVENTION, Volume 7531-6. See whole document.	1-46
X,Y	JHAVERI, M.S. et al. (1998) Methylation-mediated regulation of the glutathione S-transferase PI gene in human breast cancer cells, GENE, Volumn 210(1), 1-7 27 March 1998. See 'materials and methods' in particular	1-46
P,X,Y	ESTELLER, M. et al. (1998) Inactivation of Glutathione S-Transferase PI Gene by Promoter Hypermethylation in Human Neoplasia, CANCER RESEARCH, Volume 58, 4515-8. See whole document.	1-46
Y	LEE, W.H. et al. (1994) Cytidine methylation of regulatory sequences near the II-class glutathione S-transferase gene accompanies human prostatic carcinogenesis, PROC. NATL. ACAD. SCI. Vol. 91, 11733-7. See whole document	1-46
T	MILLER, D.S. et al. (1999) Detailed methylation analysis of the glutathione S-transferase II (GSTPI) gene in prostate cancer, ONCOGENE, Vol. 18(6), 1313-24	

International application No.  
PCT/AU 99/00306

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
AU	31341/95	WO	96/02674	EP	771362	JP	10504187
		CA	2195396	US	5552277		

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.  
PCT/ AU 99/00306**Supplemental Box**

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: B

Electronic database consulted during the International Search

## 1. DERWENT; FILE WPAT, JPAT.

SS 1:	C12Q/IC (32597) (WPAT (24538)	JAPIO (8059)
SS 2:	GLUTATHIONE (5W) TRANSFERASE? (0) WPAT	JAPIO (0)
SS 3:	TRANSFERASE (2672) WPAT (2211)	JAPIO (461)
SS4:	GLUTATHIONE AND TRANSFERASE (155) WPAT (128)	JAPIO (27)
SS 5:	GLUTATHIONE (5W) TRANSFERASE (152) WPAT	JAPIO (27)
SS 6:	1 AND 5 (22) WPAT (20)	JAPIO (2)

## 2. STN; FILE MEDLINE, CA.

FILE 'MEDLINE'

E GLUTATHIONE/CT

E GLUTATHIONE TRANSFERASE

L1	10995 S GLUTATHIONE AND TRANSFERASE
L2	85 S L1 AND METHYLATION
L3	31 S L2 AND (ASSAY OR DIAGNOS? OR TEST?)

FILE 'CA'

L4	28 S L2 AND (ASSAY OR DIAGNOS? OR TEST?)
L5	0 S L4 NOT L3